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#### D. REMARKS

##### *Specification*

Applicants have amended the specification above to include the application serial numbers of the related cross-references.

##### *Amendments to Claims 26-30*

Applicants have amended claims 26-30 to correct the dependent numbering.

##### *35 USC § 102(b)*

Claims 1-3, 9-10, 14-17, 22-23, and 25 stand rejected under 35 U.S.C. §102(b) as being anticipated by Shtivelman (US Patent Number 6,157,655). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed Cir. 1987). Furthermore the reference must be an enabling disclosure of each and every element as set forth in the claim. *In re Hoecksmas*, 158 USPQ 596, 600 (CCPA 1968); *In re LeGrive*, 133 USPQ 365, 372 (CCPA 1962). Because the Examiner does not show that Shtivelman teaches each an every element of the claims 1-3, 9-10, 14-17, 22-23, and 25 or enables each and every element of these claims, these claims are not anticipated, the rejection should be withdrawn, and the claims should be allowed.

##### **Claim 1**

Responsive to the Examiner's rejection of claims 1, 14, and 25, Applicants amend these claims. Amended method claim 1, which corresponds with amended system and program claims 14 and 25 currently reads:

1.(Currently Amended) A method for estimating wait times within a hold queue comprising:

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receiving a plurality of calls at a call center, wherein each caller associated with a call from among said plurality of calls is identified by an authenticated caller identifier;

retrieving, for each caller according to said authenticated caller identifier, a caller profile from among a plurality of caller profiles, wherein each of said plurality of caller profiles indicates a previous call center usage history for each said caller;

estimating a plurality of call times individually for each of said a plurality of calls within a call center based on said previous call center usage history for each said caller;

positioning a particular call received from a particular caller at said call center within a hold queue; and

estimating a wait time in said hold queue for said particular call according to said plurality of call times individually estimated for said plurality of calls within said call center.

Applicants respectfully propose that Shtivelman does not anticipate the invention of claim 1 because Shtivelman does not teach expressly or inherently the elements of amended claim 1 or enable the elements of amended claim 1.

Originally, the Examiner rejected the first element of claim 1 “estimating a plurality of call times individually for each of a plurality of calls within a call center” as taught in Shtivelman by “a method for estimating, by a processor coupled to a call waiting queue, waiting time for a designated call in the call waiting queue.” (Shtivelman, col. 4, lines 35-37).

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Applicants respectfully note, however, that the specific method taught by Shtivelman for estimating waiting times in a call waiting queue is based on:

“(a) determining the number of calls ahead of the designated call, (b) determining the historical average call handling time for calls in the queue, (c) for each agent handling calls in the queue determining the portion of the agent’s time devoted to the queue, (d) determining an effective number of agents devoted to the queue by summing the time portions over all of the agents; and (e) multiplying the number of calls ahead from step (a) by the historical call handling time from step (b), and dividing the result by the effective number of agents determined in step (d).”

(Shtivelman col. 4, lines 38-48).

[Thus, Shtivelman teaches estimating waiting times by focusing on the activities of the agents answering calls. Shtivelman does not teach estimating waiting times focused on the average time per call of the callers currently waiting in the queue and talking with agents. In contrast, presently amended claim 1 teaches that one factor used in estimating a wait time for a particular caller is the estimated call times for all the other callers current waiting in the hold queue or taking with an agent, where the estimated call times are based on previous call center usage history for all the other callers.]

In addition, currently amended claim 1 incorporates elements originally taught in dependent claim 6, which was rejected for the same reasons as described for claim 12. In particular one element of claim 12 reads: “receiving a plurality of calls authenticated by a plurality of caller identifiers at a call center” which is similar to the amended claim 1 element of “receiving a plurality of calls at a call center, wherein each caller associated with each of said plurality of calls is identified by a authenticated caller identifier.”<sup>1</sup> Originally, the Examiner rejected claim 12 under 103(a) as unpatentable over Shtivelman in view of Eitel et al (US 5,933,828). [Office Action, p. 5] In particular, the Examiner cited Eitel et al as teaching:

“upon receipt of the call, a number of attributes of the received call (e.g. ANTI, DNIS, etc.) are transferred from the PSTN 20 to the ACD 22. The data fields may be forwarded to the server 36 for entry into the database 40 for

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purposes of call tracking and performance monitoring. A dialed number identification service (DNIS) number and/or a automatic number identification (ANI)(also referred to sometimes as caller ID) may be received and be entered into the database 40 of the server 36 along with a uniquely generated call number... Information such as the ANTI number may be used by a processor of the ACD switch 22 to search the database 40 of the server 36 to identify the caller. Upon identifying the caller, other records of the database 40 may be searched to retrieve a customer file.” (Eitel et al, col. 3, lines 33-53).

The Examiner concluded that by using the “attributes of the received call” such as by using an ANI, which only indicates the identifier for the subscribing caller to a phone line or by using a DNIS, which only indicates the menu selection numbers entered by a caller, that the caller identifier is authenticated. [Office Action, p. 6] Applicants respectfully note, however, as is well known in the art, that authentication requires verifying or validating an identity of a person through a password or some other unique personal identification. A caller ID only identifies the name of the telephone number subscriber to the line that a caller is using. Any number of actual individual persons could use the same telephone line, but Eitel et al does not teach determining the actual identity of any of the callers or requiring any personal identification that would verify the identity of a caller. In contrast, presently amended claim 1 teaches retrieving caller profiles that are associated with an authenticated caller identifier which is further described in the specification as “authenticating the actual identity of the person making a phone call, rather than the identification of a device from which a call is made.” (Brown et al, p. 13, lines 5-9).

Applicants respectfully request allowance of claims 1, 14, and 25 in light of the amendments and the arguments in response to previously rejected dependent claims now partially incorporated in claims 1, 14, and 25. Applicants note that additional arguments are presented below in support of the patentability of claim 12, which also apply in support of the patentability of amended claims 1, 14, and 25.

*Claims 34, 35, and 36*

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In addition, applicants note the addition of claims 34, 35, and 36. Each of these claims includes the element that an authenticated caller identifier is a voice authenticated caller identifier. Voice authentication of caller identifiers is described throughout the specification of the present application and in particular is described on page 13, lines 12-19 which describe that "an authentication service within telco application server 22 may include identification and verification of a caller or callee of a particular call. Such a service may require that subscriber provide voice samples when setting up a subscription. The stored voice samples may then be compared against voice samples received for a particular call in order to authenticate the identity of a current caller or callee of the particular call." Allowance of claims 34, 35, and 36 is respectfully requested.

**Claims 2-3, 9-10, 15-17, and 22-23**

Regarding claims 2-3, 9-10, 15-17, and 22-23, Applicants respectfully proposes that because Shtivelman no longer anticipates the independent claims 1, 14, and 25 upon which these dependent claims rely, then Shtivelman does not anticipate these dependent claims and the dependent claims should be allowed.

***35 USC § 103(a)*****Claims 31-33**

Claims 31-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Eitel et al (US Patent Number 5,933,828). The Examiner carries the burden of proving a prima facie case of obviousness for a 103(a) rejection. Because the Examiner does not carry the burden of proving a prima facie case of obviousness for claims 31-33, the rejection should be withdrawn and the claims should be allowed. Further, as amended, claims 31-33 are not obvious in view of Eitel and therefore the rejection should be withdrawn and the claims allowed.

In establishing a prima facie case of obviousness under 103(a), the combined prior art references must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.3d 488, 20 USPQ2d 1438 (Fed Cir. 1991). Claim 31 currently reads as follows:

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31.(Currently Amended) A method for monitoring caller on hold characteristics, comprising:

receiving, at a caller profile server, monitored on hold characteristics according to an authenticated caller identifier of a caller from at least one call center at which said caller ~~which~~ has waited in a hold queue from among a plurality of call centers communicatively connected to a said caller profile server;

computing, at said caller profile server, on hold statistics for said caller across at least one from among said plurality of call centers from said monitored on hold characteristics in said caller profile maintained in association with said authenticated caller identifier;

responsive to receiving a request for said caller profile according to said authenticated caller identifier at said caller profile server, distributing said computed on hold statistics for said caller, such that each of said plurality of call centers ~~are~~ is independently enabled to estimate wait times within a hold queue comprising said caller based on said on hold statistics.

The Examiner states that Eitel et al. teaches the element of "receiving monitored on hold characteristics according to a caller identifier of a caller from at least one call center at said caller has waited in a hold queue from among a plurality of call centers communicatively connected to a caller profile server" where the caller identifier is a DNIS or ANI and the call center is an ACD as taught in Eitel et al Col. 3, lines 48-54 and 61-65. [Office Action, p. 4] As previously discussed with reference to the amendments to claim 1, the DNIS or ANI may server to identify the line number from which a caller places a call, but does not provide the actual identity of a caller beyond the line number information. Further, as described with reference to the

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amendments to claim 1, Eitel does not teach or enable authenticating a caller identity. In contrast, claim 31 is amended to include a caller identifier that is an authenticated caller identifier as is supported in the present specification at page 13, lines 5-9.

In addition, the Examiner states that Eitel teaches the element of "computing on hold statistics for said caller across at least one call center from said monitored characteristics in said caller profiles" at Col. 3, lines 61-65. [Office Action, p.4-5] Col. 3 lines 61-65 read: "While the call is in the queue, the processor of the ACD 22 periodically updates a timer measuring the total time that the call has been in the queue. The total time in the queue is also stored in the database 40 as part of the call processing history in the call file." Applicants note that Eitel distinguishes a call file, which is specified for a call, from a customer profile, which is specified for a caller identifier. (Eitel col. 3, lines 53-54 "An identifier of the customer file may also be placed in the call processing file.") A call file may include a record of the amount of time that the call has taken, but Eitel does not teach storing the time calculated for a call file in a customer profile. In contrast, claim 31 distinguishes that a monitored on hold characteristic, such as the amount of time that a particular call for a particular caller identifier has taken, is received. Furthermore, claim 31 distinguishes monitored on hold characteristics from on hold statistics computed from the monitored on hold characteristics, but the Examiner does not show where Eitel teaches the difference between first receiving monitored on hold *characteristics* and second computing on hold *statistics* for the caller from the monitored on hold characteristics.

Further, the Examiner states that Eitel teaches "responsive to a request for said caller identifier, distributing said computed on hold characteristics for said caller, such that call center is enabled to estimate hold times within a hold queue comprising said caller" from Col. 3, lines 66-67 and col. 4, lines 1-5). Col. 3, lines 66-67 and col. 4, lines 1-5 read: "where certain criteria is met (e.g. the call has spent too much time in the queue), the call may be overflowed to a destination ACD 22. As part of the call transfer, an identifier of the call record may be overflowed to the destination ACD 22 along with the call, allowing the destination ACD 22 to access the call processing file within the database 40 of the server 36." Applicants respectfully submit that Eitel merely teaches moving a call from one call center to another and allowing the

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“destination” call center to access the call file. Eitel does not teach a request for a caller identifier being received or that the computed on hold statistics for the caller identifier are distributed. In contrast, claim 31 teaches receiving a request for the caller profile according to the caller identifier (amended, claim 31 specifies an authenticated caller identifier) and distributing the on hold statistics such that a call center can then enabled to estimate wait times.

In conclusion, Eitel does not teach the original elements of claim 31 and therefore the Examiner has not met the burden of proving a prima facie case of obviousness because the claimed invention is not taught by the reference. Applicants, however, have amended claims 31-33 to clarify that the caller identifier described in claims 31-33 is an authenticated caller identifier. Further, applicants have amended claims 31-33 to clarify that a caller profile server is computing the on hold statistics for a caller profile. Applicants respectfully request that the rejection of claims 31-33 be withdrawn and the claims allowed.

**Claims 6, 11-13, 19, 24, 26-27, and 30**

Claims 6, 11-13, 19, 24, 26-27, and 30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Shtivelman as applied to claims 1-3, 9-10, 14-17, 22-23, and 25 in view of Eitel et al. The Examiner carries the burden of proving a prima facie case of obviousness for a 103(a) rejection. Because the Examiner does not carry the burden of proving a prima facie case of obviousness for claims 6, 11-13, 19, 24, 26-27, and 30, the rejection should be withdrawn and the claims should be allowed. Further, as amended, claims 6, 11-13, 19, 24, 26-27, and 30 are not obvious and therefore the rejection should be withdrawn and the claims allowed.

In establishing a prima facie case of obviousness under 103(a), the combined prior art references must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.3d 488, 20 USPQ2d 1438 (Fed Cir. 1991). The Examiner rejects claims 6, 11-13, 19, 24, 26-27, and 30 based on a rejection to claim 12. Claims 12 currently reads:

12.(Currently Amended) A method for estimating wait times at a call center,  
comprising:

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receiving a plurality of calls identified by ~~authenticated by~~ a plurality of authenticated caller identifiers at a call center;

receiving a plurality of caller profiles associated with said plurality of authenticated caller identifiers, wherein said plurality of caller profiles comprise time averages for said plurality of callers while previously on hold at at least one call center; and

estimating a wait time for a particular caller waiting in a hold queue from among said plurality of callers according to said time averages for said plurality of callers.

The Examiner states that Shtivelman discloses the elements of claim 12 except for the element of “authenticating a plurality of caller identifiers at a call center and receiving a plurality of caller profiles associated with said plurality of caller identifiers, and wherein said plurality of caller profiles comprise time averages for said plurality of callers while previously on hold at at least one call center.” [Office Action, p. 5] As previously described with reference to claim 1, the Examiner then cites that Eitel teaches:

“upon receipt of the call, a number of attributes of the received call (e.g. ANTI, DNIS, etc.) are transferred from the PSTN 20 to the ACD 22. The data fields may be forwarded to the server 36 for entry into the database 40 for purposes of call tracking and performance monitoring. A dialed number identification service (DNIS) number and/or a automatic number identification (ANI)(also referred to sometimes as caller ID) may be received and be entered into the database 40 of the server 36 along with a uniquely generated call number... Information such as the ANTI number may be used by a processor of the ACD switch 22 to search the database 40 of the server 36 to identify the

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caller. Upon identifying the caller, other records of the database 40 may be searched to retrieve a customer file. An identifier of the customer file may also be placed in the call processing file. [...] While the call is in the queue, the processor of the ACD 22 periodically updates a timer measuring the total time that the call has been in the queue. The total time in the queue is also stored in the database 40 as part of the call processing history in the call file.” (Eitel, col. 3, lines 33-65).

The Examiner states that:

“it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shtivelman’s invention by adding the step of authenticating a call identifier, retrieving a call profile associated with said call identifier, and wherein call profile comprise the time the user has previously spent on hold, as taught by Eitel et al. In this manner providing a method for estimating times at a call center in which the queue history is used when calculating the average wait time for a particular caller, therefore providing more efficient call tracking and performance monitoring. Further, it is obvious that a call center will receive a plurality of calls and these estimations will be calculated based said plurality of calls (as reading on “incoming calls.”) (See Eitel, col. 3, lines 22-23).” [Office Action, p. 6-7]

As previously discussed with reference to claim 1, Eitel teaches use a caller ID which indicates a line number to look up a customer file, but does not teach authenticating a caller identifier or passing authenticated caller identifiers and then looking up a caller profile based on an authenticated caller profile. Applicant asserts, as is well known in the art, that authentication implies verification of an actual identity, not just passing an identifier that indicates a line number. In contrast, claim 12 teaches authenticating a caller identifier and then using the authenticated caller identifier to access hold information from and maintain hold information in a caller profile.

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In conclusion, Eitel does not teach the original elements, and in particular an authenticated caller identifier, of claim 12 and therefore the Examiner has not met the burden of proving a prima facie case of obviousness because the claimed invention is not taught by the reference. Applicants, however, have amended claim 12 for purposes of clarifying that the caller identifier is authenticated, not the call. Applicants respectfully request that the rejection of claims 12 be withdrawn and the claims allowed.

In addition, with regards to claims 6, 11, 13, 19, 24, and 26-27, and applicants respectfully propose that the Examiner does not establish prima facie obviousness for claim 12 and therefore corresponding claims 6, 11, 13, 19, 24, and 26-27 should not be rejected. In light of incorporating claims 6, 19, and 27 in claims 1, 14, and 25, however, Applicants cancel claims 6, 19, and 27.

#### **Claims 5 and 18**

Claims 5 and 18 stand rejected as system and program claims that correspond directly to dependent method claim 1 and system claim 14. Applicants respectfully propose that the Examiner does not establish anticipation of claims 1 and 14, and therefore dependent claims 5 and 18 should not be rejected.

#### **Claims 7-8, 20-21, and 28-29**

Claims 7-8, 20-21, and 28-29 stand rejected as dependent method, system and program claims of method claim 1, system claim 14, and program product claim 25. Applicants respectfully propose that the Examiner does not establish anticipation of claims 1, 14, and 25, and therefore dependent claims 7-8, 20-21, and 28-29 should not be rejected.

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*Conclusion*

Applicants note the citation of pertinent prior art cited by the Examiner.

In view of the foregoing, withdrawal of the rejections and the allowance of the current pending claims is respectfully requested. If the Examiner feels that the pending claims could be allowed with minor changes, the Examiner is invited to telephone the undersigned to discuss an Examiner's Amendment. Further, Applicants reiterate the request for a telephone conference with the Examiner at the Examiner's earliest convenience.

Respectfully submitted,

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